# WORKING INFORMATION FOR THE USE OF

# BROVIRA PAPER

**General Information.**—Brovira is a rapid bromide paper which has won widespread recognition for its beauty, ease of handling and the depth and richness of its blacks. The paper has a rapid bromide emulsion which is exceptionally clean working and which has remarkable latitude in exposure and development.

Brovira is supplied in several grades of contrast and a variety of surfaces, as shown in the following table:

| SINGLE WEIGHT | No. 1 SOFT For Contrasty Negatives | No. 2 MEDIUM For Normal Negatives | No. 3 HARD For Soft Negatives | No. 4 EXTRA HARD For Extra Soft Negatives |
|---|---|---|---|---|
| Glossy | 7431 | 7432 | 7433 | 7434 |
| Velvet | 7511 | 7512 | 7513 | 7514 |
| **DOUBLE WEIGHT** | | | | |
| Glossy | 7031 | 7032 | 7033 | — |
| Velvet | 7211 | 7212 | 7213 | 7214 |
| Matte White | 7051 | 7052 | 7053 | 7054 |
| Silk White | 7111 | 7112 | — | — |
| Royal White | 7251 | 7252 | 7253 | 7254 |
| Crystal White | 7171 | 7172 | 7173 | — |
| Porcelain White | 7191 | 7192 | — | — |
| Kashmir White | 7261 | 7262 | 7263 | — |
| Kashmir Ivory | 7271 | 7272 | 7273 | — |
| Mapping Special | 7281 | 7282 | 7283 | — |

**Precautions.** — Handle and develop Brovira in orange or other standard bromide paper safelight, such as that provided by the Agfa A-6 Yellow Green Safelight Filter with a 25-watt lamp. Safelights that are used for contact printing paper are generally unsafe and should not be used.

When in doubt as to the suitability of the safe-light, test as follows:

Cover half of a small piece of Brovira paper and expose the uncovered half to the safelight for a period of 2 minutes at the usual working distance. Then develop for 1½ minutes in darkness or with the emulsion side of the test strip down in the tray. If the exposed half turns gray, the safelight should not be used. Also, it should be remembered that the No. 1 and

No. 2 grades of Brovira are more sensitive to light than the No. 3, and No. 4 grades.

**Exposure.**— The soft grades of Brovira require slightly less printing time than the hard grades, as indicated by the following comparison—if correct exposure for a negative on Brovira No. 1 is 3 seconds, the corresponding exposure on Brovira No. 2 will be 4 seconds, on Brovira No. 3, 5 seconds and on Brovira No. 4, 10 seconds.

**Development.**—For convenience in development, it is recommended that Brovira be developed in Agfa 125 Prepared Developer or Agfa 103 Prepared Developer. These Prepared Developers are packaged in metal containers and need only to be dissolved in water for use. For those who prefer to mix their own developers, several Agfa formulas are given below.

Exposure of the paper should be controlled so that the enlargement will develop within the recommended times. This will insure rich blacks and a full scale of tones.

However, the contrast of Brovira can be varied considerably by varying exposure and development time. If a more brilliant print is desired, the printing time should be decreased and the developing time increased. If a softer print is desired, the printing time should be increased and the developing time decreased.

For best results, all solutions should be kept as close as possible to a temperature of 70° Fahrenheit (21° C.).

## AGFA 125

### STANDARD DEVELOPER FOR BROVIRA PAPER

STOCK SOLUTION

| | *Metric* | *Avoirdupois* |
|---|---|---|
| Hot Water (125° F. or 52° C.) | 750 cc. | 24 ounces |
| Agfa Metol | 3 grams | 45 grains |
| Agfa Sodium Sulphite, anhydrous | 44 grams | 1½ ounces |
| Agfa Hydroquinone | 12 grams | ¼ oz. 60 gr. |
| Agfa Sodium Carbonate, monohydrated | 65 grams | 2¼ ounces |
| Agfa Potassium Bromide | 2 grams | 30 grains |
| Water to make | 1 liter | 32 ounces |

*For use, dilute 1 part stock solution with 2 parts water. Normal developing time, 1 to 2 minutes at 70° Fahrenheit (21° C.).*

*For softer results, dilute 1 to 4. Develop 1½ to 3 minutes, at 70° F. (21° C.).*

## AGFA 103

**Recommended especially for news and commercial work.**

STOCK SOLUTION

| | *Metric* | *Avoirdupois* |
|---|---|---|
| Hot Water (125° F. or 52° C.) | 750 cc. | 24 ounces |
| Agfa Metol | 3.5 grams | 50 grains |
| Agfa Sodium Sulphite, anhydrous | 45 grams | 1½ oz. |
| Agfa Hydroquinone | 11.5 grams | ¼ oz. 55 gr. |
| Agfa Sodium Carbonate, monohydrated | 78 grams | 2½ oz. 35 gr. |
| Agfa Potassium Bromide | 1.2 grams | 18 grains |
| Water to make | 1 liter | 32 ounces |

*For use, dilute 1 part stock solution with 1 part water. Normal developing time, 45 sec. to 1½ minutes at 70° Fahrenheit (21° C.).*

## AGFA 120

### SOFT WORKING PAPER DEVELOPER

STOCK SOLUTION

This developer is primarily intended where soft gradation is required, but is recommended particularly for use in conjunction with Agfa 125 developer for a two tray developing procedure, which is explained below.

| | *Metric* | *Avoirdupois* |
|---|---|---|
| Hot Water (125° F. or 52° C.) | 750 cc. | 24 ounces |
| Agfa Metol | 12.3 grams | ¼ oz. 70 gr. |
| Agfa Sodium Sulphite, anhydrous | 36 grams | 1 oz. 88 gr. |
| Agfa Sodium Carbonate, monohydrated | 36 grams | 1 oz. 88 gr. |
| Agfa Potassium Bromide | 1.8 grams | 27 grains |
| Water to make | 1 liter | 32 ounces |

*For soft results, dilute 1 part stock solution with 2 parts water. Normal development time 1½ to 2 minutes at 70° Fahrenheit (21° C.).*

### TWO TRAY DEVELOPING PROCEDURE

The above standard developers will give satisfactory prints under normal conditions with average negatives.

In certain instances, however, it is desirable to have even greater control of print gradation than which is possible by variation of exposure and developing time, and with various paper contrasts. By the use of a very soft developer in one tray and a brilliant developer in another tray, it is possible to get a much greater amount of control. By starting development in Agfa 120, a soft developer, and finishing in Agfa 125, diluted 1 to 2, the desired control can be effected. Experience will show the length of time that various prints should be left in the respective developers.

## AGFA 210

### ACID SHORT-STOP BATH

Best results will be secured by the use of an Acid Short-Stop bath between developer and fixer. The solution stops development and prevents staining of the prints. It should be kept fresh.

| | *Metric* | *Avoirdupois* |
|---|---|---|
| Water | 1 liter | 32 ounces |
| Acetic Acid 28% | 45 cc. | 1½ ounces |

Glacial Acetic Acid may be diluted to 28% concentration by adding 3 parts of acid to 8 parts of water.

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## AGFA 201

### ACID HARDENING FIXER

This hardening fixer may be stored indefinitely and used repeatedly until exhausted. If the fixing bath froths, or turns cloudy, it must be replaced by a fresh solution. Dissolve chemicals thoroughly in order given.

Solution 1

| | *Metric* | *Avoirdupois* |
|---|---|---|
| Hot Water (125° F. or 52° C.) | 2 liters | ½ gallon |
| Hypo | 960 grams | 2 pounds |

Solution 2

| | | |
|---|---|---|
| Warm water about 125° F. (52° C.) | 600 cc. | 20 ounces |
| Agfa Sodium Sulphite, anhydrous | 60 grams | 2 ounces |
| Acetic Acid 28% | 180 cc. | 6 ounces |
| Agfa Potassium Alum | 60 grams | 2 ounces |
| Add solution 2 to 1, stirring rapidly. | | |
| Add water to make | 4 liters | 1 gallon |

Prints should fix completely in 5 to 10 minutes. Agitate prints occasionally during fixation.

## WASHING AND DRYING

After fixation, wash prints thoroughly, for at least 30 to 60 minutes in running water. In the case of mechanical dryers, it should always be kept in mind that the use of excessive heat is to be avoided, as this may prove injurious to the print and interfere with obtaining standard tones and quality.

# AGFA 221
## SEPIA TONER

This toner is recommended for warm-brown sepia tones.

SOLUTION 1

| | *Metric* | *Avoirdupois* |
|---|---|---|
| Hot Water (125° F. or 52° C.) | 750 cc. | 24 ounces |
| Agfa Potassium Ferricyanide | 50 grams | 1½ oz. 70 gr. |
| Agfa Potassium Bromide | 10 grams | ¼ oz. 35 gr. |
| Agfa Sodium Carbonate, Monohydrated | 20 grams | ½ oz. 70 gr. |
| Water to make | 1 liter | 32 ounces |

Do not dilute for use.

SOLUTION 2

| | | |
|---|---|---|
| Agfa Sodium Sulphide | 45 grams | 1½ ounces |
| Water to make | 500 cc. | 16 ounces |

For use as described below, dilute one part solution 2 with eight parts water.

IMPORTANT—Be sure to use Sodium Sulphide, not Sodium Sulphite, in compounding the Re-Developer. Also, use clean trays, free from exposed iron spots, especially with Bleaching Bath. Otherwise blue spots may form on prints.

Prints should be washed thoroughly and then bleached in Solution 1 until the black image is converted to a very light brown color (about 1 minute). Prints should then be washed for 10 to 15 minutes and redeveloped in diluted Solution 2.

Redevelopment should be complete in about 1 minute. After redevelopment the prints should be washed for about 30 minutes and then dried. If the toner should leave sediment which results in streaks or finger marks on the surface of the paper the print should be immersed for a few seconds in a 3% solution of acetic acid. A washing of about 10 minutes after this procedure is necessary.

## PREPARED SEPIA TONER

Brovira Toner, which has been designed especially for use with Brovira, produces beautiful and highly distinctive tones with this paper. The toner is supplied in concentrated form in 4 or 8 ounce sizes, each package containing directions.

Bleaching powders for use with Agfa Prepared Brovira Toner are also supplied in prepared tubes which need only to be dissolved in water for use.

## USE TESTED CHEMICALS

Agfa Chemicals are pure, dependable and laboratory tested to insure complete satisfaction in use. They dissolve rapidly to form clear solution which will give best results in your photographic work.

# AGFA CHEMICALS

## LABORATORY TESTED

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